Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Fidelity Exploration and Production Company
Well Name/Number: Edam 15-22H
Location: NE NW Section 15 T21N R57E
County: Richland **, MT; Field (or Wildcat)** W/C

Air Quality

(possible concerns)
Long drilling time: 30-40 days drilling time for a single lateral horizontal Three Forks Formation well test.
Unusually deep drilling (high horsepower rig): No, triple drilling rig to drill a 20,145'MD/ 10,164' TD single lateral horizontal Three Forks Formation well test.
Possible H2S gas production: Slight chance H2S gas.
In/near Class I air quality area: No Class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
_X_ Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____

Comments: No special concerns, adequate surface casing, 1500' to be set and cemented back to surface. Proper BOP stack and adequate surface casing should mitigate any concerns. Triple drilling rig to drill a 20,145'MD/ 10,164' TD single lateral horizontal Three Forks Formation well test.

Water Quality

(possible concerns)
Salt/oil based mud: Will use freshwater and freshwater mud system on surface casing hole. Oil based invert drilling fluids will be used to drill the intermediate casing string hole. Saltwater to drill horizontal lateral.
High water table: No high water table anticipated.
Surface drainage leads to live water: No, closest ephemeral drainage Crane Creek about 1/4 of a mile to the south from this location. There should not be any discharge of fluids off this location.
Water well contamination: No, closest water wells are about ¼ of a mile to east northeast, ¼ of a mile to the east, 3/8 of a mile to the northeast, 5/8 of a mile to the northeast and 7/8 of a mile to the northwest from this location. Depth of these domestic and stock water wells range from 40' to 220'. Surface hole will be drilled with freshwater. Surface casing will be set at 1500' and cemented to surface.
Porous/permeable soils: No, sandy clay soils, variable.
Class I stream drainage: No Class I stream drainage in the area of review.

Mitigation:
_X_ Lined reserve pit
_X_ Adequate surface casing
__ Berms/dykes, re-routed drainage
_X_ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)

__ Other: _____

Comments: Analysis of Base of Fox Hills suggests that 1500' of surface casing is not adequate to cover Base of Fox Hills. Will require 1601' of surface casing to be cemented to surface a to protect freshwater zones and cover the Base of the Fox Hills. Also, fresh water mud systems to be used on surface hole.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: No, moderate cut, up to 16.7' and small fill, up to 2.9', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: Large, 470'X470' location size required.

Damage to improvements: Slight.

Conflict with existing land use/values: Slight, surface use is grassland.

Mitigation

__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
__ Other _____

Comments: Access will be over existing county road, #340 and existing private road. Will need to construct about ½ mile of new access road into location from the private road. Oil based invert drilling fluids will be recycled. Completion fluids will be hauled to a Class II saltwater disposal. Solids will be allowed to dry in the lined pit. Dry subsoil will be mixed with the remaining cuttings and mud solids in the lined pit to solidify the pit. Pit liner will be folded over the top of the solids, spoil dirt to fill pit, top soil spread over pit area. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences Residences are about 3/8 of a mile to the east northeast, 1.125 miles to the southeast and 1.625 miles to the south from this location.

Possibility of H2S: Slight

Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time

Mitigation:

_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: No concerns. Proper BOP stack and adequate surface casing should be able to mitigate any problems that occur.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: No creation of new access to wildlife habitat.
Conflict with game range/refuge management: No game ranges nearby.
Threatened or endangered Species: Species identified as threatened or endangered by USFWS are the Pallid Sturgeon, Interior Lease Tern and the Whooping Crane. Species of concern is the Greater Sage Grouse and Sprague's Pipit. NH Tracker website lists two (2) species of concern. They are the Whooping Crane and the Great Blue Heron.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other: _____
Comments: Private surface lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites: None identified.
Mitigation
__ avoidance (topographic tolerance, location exception)
_X other agency review (SHPO, DSL, federal agencies)
__ Other:_____
Comments: Private surface lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: Wildcat well. No concerns

Remarks or Special Concerns for this site

Well is a 20,145'MD/ 10,164' TD single lateral horizontal Three Forks Formation well test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: December 7, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Richland County water wells
(subject discussed)
December 7, 2011
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Richland County
(subject discussed)

December 7, 2011
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T21N R57E
(subject discussed)

December 7, 2011
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection:_____